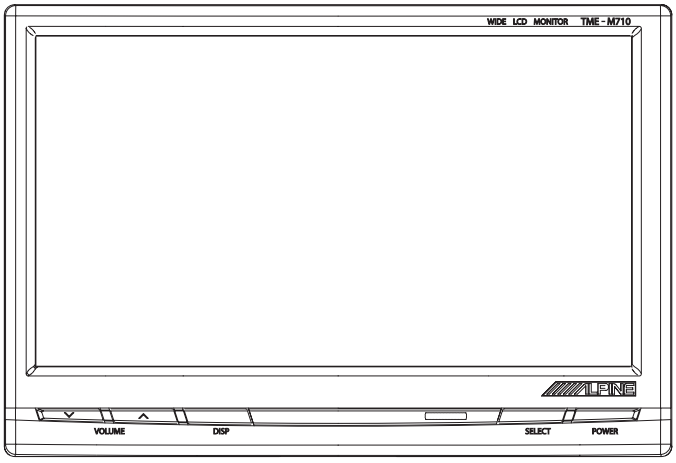
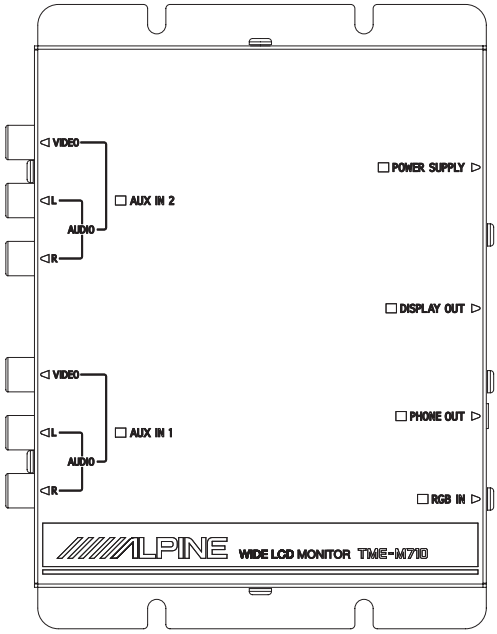
SERVICE MANUAL

6.5-INCH WIDE LCD MONITOR

* The model is component system unit of Monitor Unit and AV Interface Unit.

Caution : The part marked with ⚠ is generating a high voltage, so care will be necessary when working.





TO ALPINE Home Page

4 / 05-A
68E38530S01

TME-M710

<Cautions for Safe Repair Work>

The following cautions will prevent accidents in the workplace and will ensure safe products.
*The symbols indicate caution is needed to prevent injuries and damage to property.
The symbols and their meanings follow.

Warning	If you ignore this symbol and handle the product incorrectly or unsafely, serious injury or death may result.
Caution	If you ignore this symbol and handle the product incorrectly or unsafely, injury or only material damage may result.

*The following symbols indicate two levels of cautions.

	When you see this symbol, you have to be very careful.
	When you see this symbol, you have to follow the instructions there.

Warning

Do not look squarely into the laser light coming from the pickup. You may loose you sight.	**Fuse Caution** Always use a designated fuse. Use of an incorrect fuse may result in a fire.

Caution

Do not allow wiring to be caught in the screw/chassis. If wiring is caught in the screw/chassis, it may cause a short circuit, resulting in a fire.	**Battery Caution** Use the designated battery. Confirm the correct polarity and seat of the battery. An incorrect battery or an improperly connected or seated battery may result in a fire.
High Temperature Caution Touching the heat sink may cause severe burns.	**Designated Parts Caution** Look up the part list and ensure that only designated parts are used to prevent problems or accidents.
Reverse Power Supply Connections or Misconnections Caution Reverse power supply connections or misconnections may cause ignition problems and smoke may result.	**Wiring Caution** Ensure that the wiring is correct when rewiring to prevent problems with ignition/breakdown.
Soldering Caution Hot solder from solder splash may cause severe burns.	**Wear Gloves** Wear gloves to prevent electrical shocks or injury from the end face of the metal.

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NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

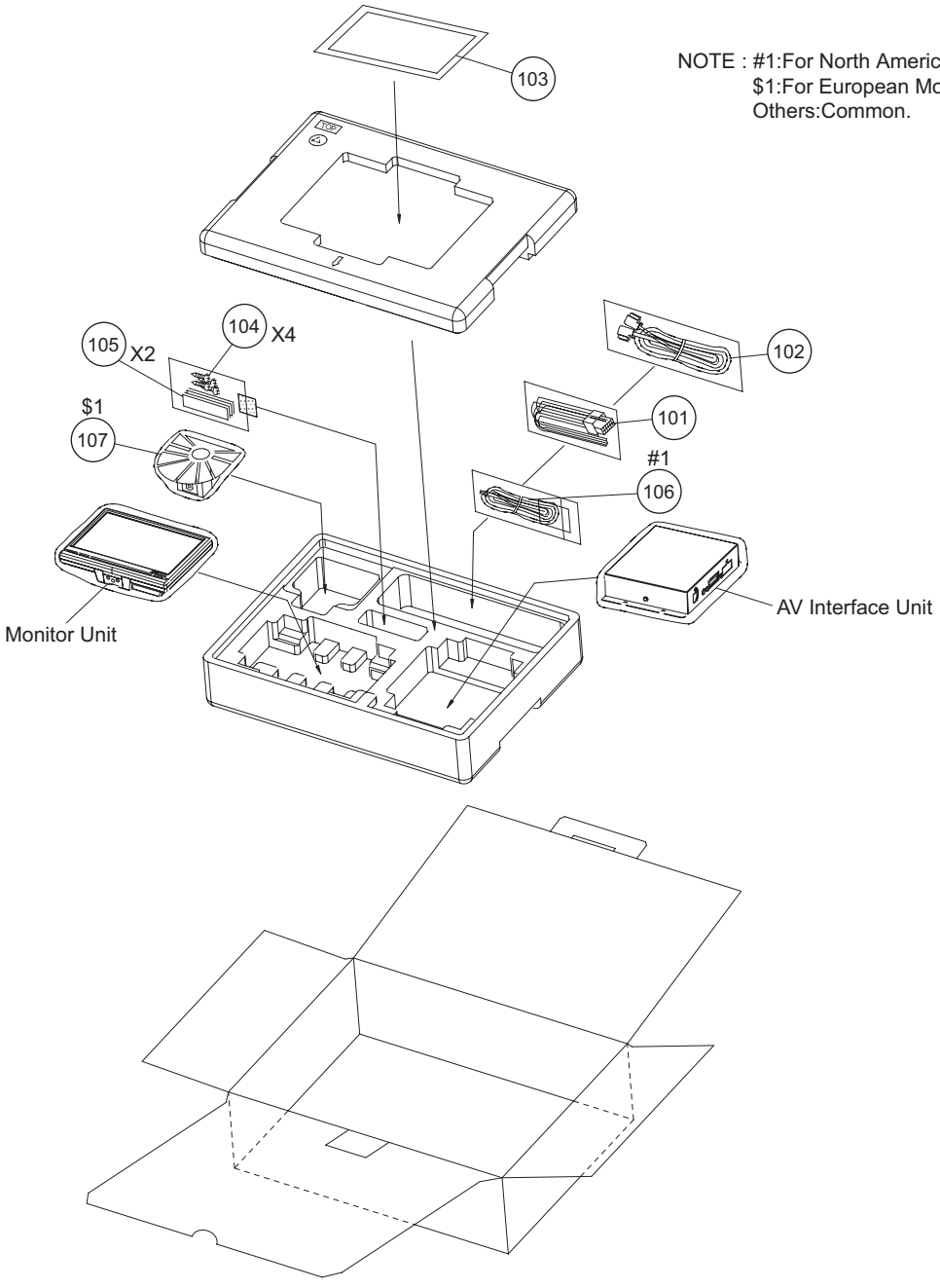
Packing Assembly Parts List

Symbol No.	Part No.	Description
#1 101	01E38563S01	ASS'Y,POWER WIRE
$1 101	01E38578S01	ASS'Y,POWER WIRE
%1 101	01E38578S01	ASS'Y,POWER WIRE
&1 101	01E38578S01	ASS'Y,POWER WIRE
102	01E38564S01	ASS'Y,I/F CABLE 20P
#1 103	68-02278Z73	MANUAL,OWNER'S
$1 103	68-02278Z74	MANUAL,OWNER'S

Symbol No.	Part No.	Description
%1 103	68-02278Z74	MANUAL,OWNER'S
&1 103	68-04094Z09	O/M,AOCH M710
104	03E38574S01	SCR,M4X14(WP)(BLK)
105	75E26094S01	TAPE,PAD-MAGIC
#1 106	01E38562S01	PARKING,PIN WIRE
$1 107	01E37298S01	ASS'Y,MONI STAND KIT

NOTE : #1:For North American Model Only, $1:For European Model Only, %1:For General Foreign Model Only, &1:For Chinese Model Only, Others:Common.

Packing Method View



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Specifications

<MONITOR>

Screen Size	6.5-Type Wide
Display System	Low Reflection Rear Projection Type TN Liquid Crystal Panel
Drive System	Active Matrix Drive, Nomally White Display
Number of Picuture Elements	280,800 pcs. (H : 1,200 x V : 234 Dots)
Light Source	Internal Optical System (U-Type Cold Cathode Fluorescent Tube)

<AUDIO>

Channel Balance (1kHz)	Head Phone Output : 0±3dB
Frequency Response (Ref. 1kHz)	Speaker Output : 100Hz : -2±3dB
	10kHz : -6±3dB
	Head Phone Output : 100Hz : -2±3dB
	10kHz : 0±3dB
S/N Ratio (1kHz)	Speaker Output : 50dB
	Head Phone Output : 45dB
Separation (1kHz)	Head Phone Output : 40dB
Distortion (1kHz)	Speaker Output : 1.0%
	Head Phone Output : 1.0%
Output Level (1kHz, Volume Max.)	Speaker Output : 1,800mVrms
	Head Phone Output : 700mVrms

<NAVIGATION>

Frequency Response (Ref. 1kHz)	Speaker Output : 100Hz : -2±3dB
	10kHz : -6±3dB
S/N Ratio (1kHz)	Speaker Output : 50dB
Distortion (1kHz)	Speaker Output : 1.0%
Difference Output Level (Ref. AUX-IN 1kHz)	Speaker Output : -3±3dB

<GENERAL>

Power Supply	DC14.4V (11.0 to 16.0V)
Audio Output/Impedance	Speaker Output : 1,200mVrms / 8 ohm
	Head Phone Output : 250mVrms / 32 ohm
Dimension (W x H x D)	Monitor Unit : 161 x 109 x 29mm
	AV Interface Unit : 130.6 x 109 x 30mm
Weight	Monitor Unit : 270g
	AV Interface Unit : 400g

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

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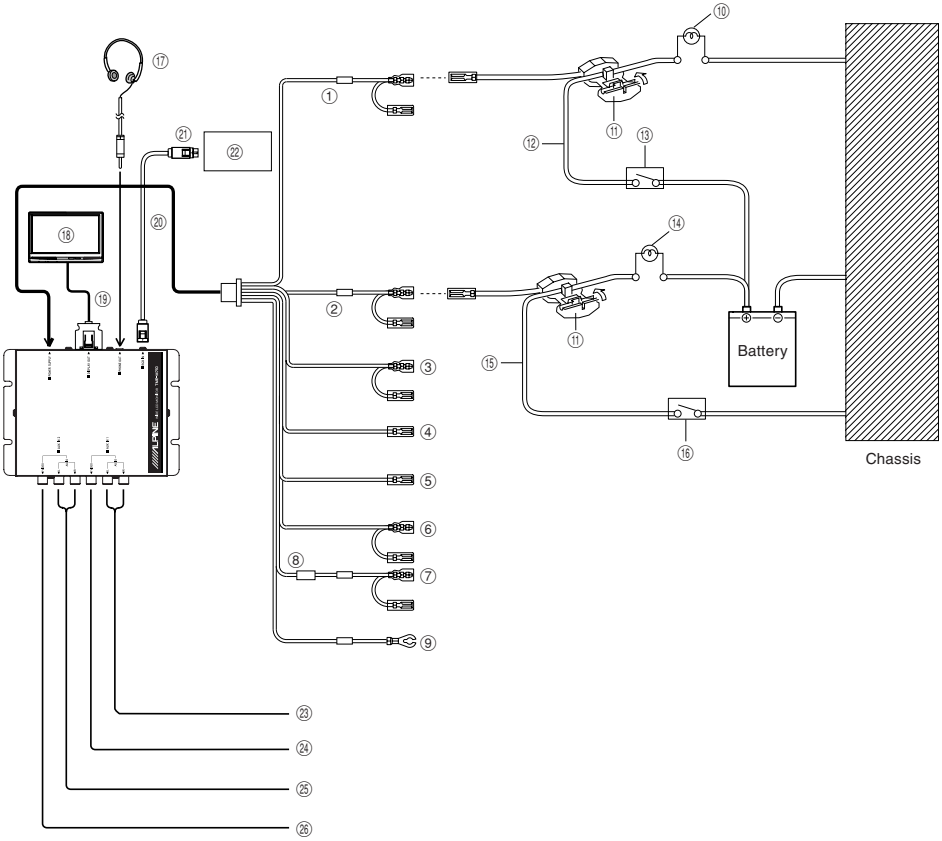
System Connections

(North American Model Only)

Make connections correctly.
Improper connections may cause a fire or operation failure.

Basic connection



TO CONTENTS

① **Foot brake lead (Yellow/Black)**
Connect this lead to the foot brake lead powered when the foot brake is pressed.

② **Hand brake lead (Yellow/Blue)**
Connect this lead to the hand brake lead powered when the hand brake is pulled.

③ **Dimmer lead (White/Blue)**
This lead may be connected to the vehicle's instrument cluster illumination lead. This will allow the backlighting of the unit to dim whenever the vehicle's lights are turned on.

④⑤ **Remote control output lead (White/Brown)**
To remote control input lead of ALPINE products used in the system.

⑥ **Reverse Lead (Orange/White)**
Use only when a back-up camera is connected. Connect to the plus side of the car's reverse lamp that lights when the transmission is shifted into reverse (R).

Switches the video picture to the back-up camera. This is linked with putting the car into reverse (R).

⑦ **ACC power lead (Red)**
To ACC power lead powered when engine key position is ACC.

⑧ **Fuse (7.5A)**

⑨ **Ground lead (Black)**
Connect the lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.

⑩ **Foot brake lamp**

⑪ **Brake connector (Included)**

⑫ **Foot brake lead**

⑬ **Foot brake switch**

⑭ **Hand (parking) brake lamp**

⑮ **Hand (parking) brake lead**

⑯ **Hand (parking) brake switch**

⑰ **Headphone**

⑱ **Main monitor**

⑲ **Connection cable**
If the cable is too short, use the extension cable (KWE-664N, sold separately).

⑳ **RGB cable**

㉑ **To RGB output terminal**

㉒ **Made by Alpine navigation**

㉓ **Audio input connectors (AUX 1)**
Use these connectors to input the audio signals from a DVD player, video deck etc.

㉔ **Video input connector (AUX 1)**
Use this connector to input the video signals from a DVD player, video deck etc.

㉕ **Audio input connectors (AUX 2)**
Use these connectors to input the audio signals from a DVD player, video deck etc.

㉖ **Video input connectors (AUX 2)**
Use this connector to input the video signals from a DVD player, video deck etc.

- *When connecting a rear view camera, use the "AUX IN 2".*

To prevent external noise from entering the audio system.

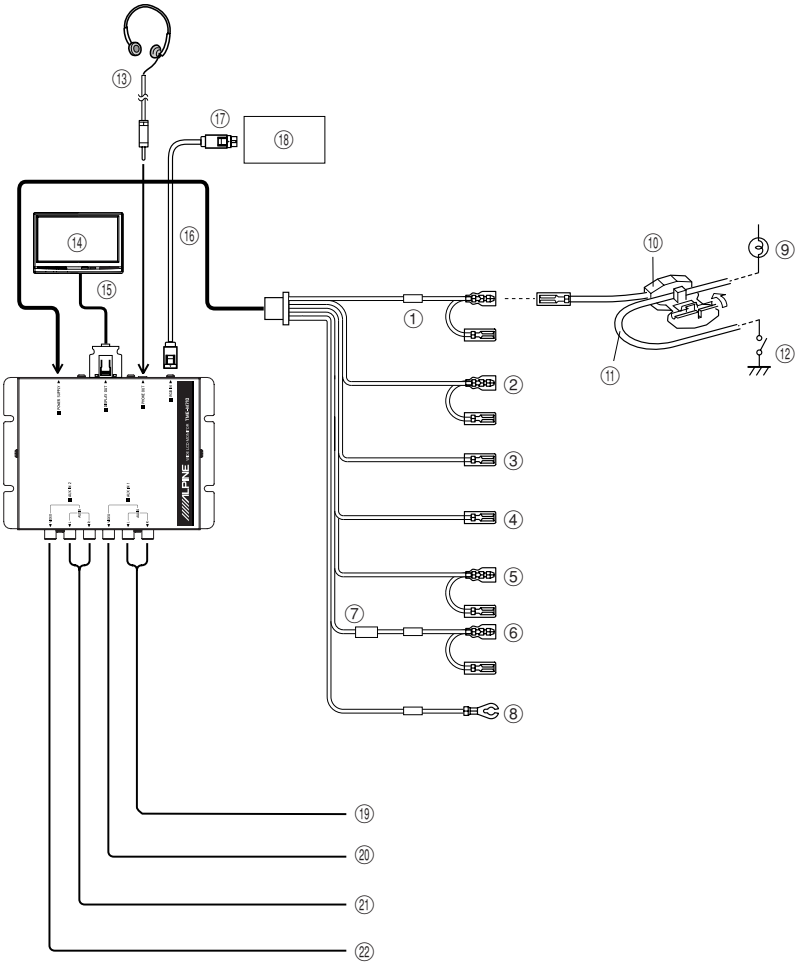
- Locate the unit and route the leads at least 10cm away from the car harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove the coating if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various Alpine noise suppressors, contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.

TO CONTENTS

(General Foreign Model Only)

Make connections correctly.
Improper connections may cause a fire or operation failure.

Basic connection



TO CONTENTS

① **Parking brake lead (Yellow/Blue)**
Connect this lead to the parking brake lead powered when parking brake is pulled.

② **Dimmer lead (White/Blue)**
This lead may be connected to the vehicle's instrument cluster illumination lead. This will allow the backlighting of the unit to dim whenever the vehicle's lights are turned on.

③④**Remote control output lead (White/Brown)**
To remote control input lead of ALPINE products used in the system.

⑤ **Reverse Lead (Orange/White)**
Use only when a back-up camera is connected. Connect to the plus side of the car's reverse lamp that lights when the transmission is shifted into reverse (R).

Switches the video picture to the back-up camera. This is linked with putting the car into reverse (R).

⑥ **ACC power lead (Red)**
To ACC power lead powered when engine key position is ACC.

⑦ **Fuse (7.5A)**

⑧ **Ground lead (Black)**
Connect the lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.

⑨ **Parking Brake Lamp**

⑩ **Brake Connector (Included)**

⑪ **Parking Brake Signal Lead**

⑫ **Parking Brake Switch**

⑬ **Headphone**

⑭ **Main monitor**

⑮ **Connection cable**
If the cable is too short, use the extension cable (KWE-664N, sold separately).

⑯ **RGB cable**

⑰ **To RGB output terminal**

⑱ **Made by Alpine navigation**

⑲ **Audio input connectors (AUX 1)**
Use these connectors to input the audio signals from a DVD player, video deck etc.

⑳ **Video input connector (AUX 1)**
Use this connector to input the video signals from a DVD player, video deck etc.

㉑ **Audio input connectors (AUX 2)**
Use these connectors to input the audio signals from a DVD player, video deck etc.

㉒ **Video input connectors (AUX 2)**
Use this connector to input the video signals from a DVD player, video deck etc.

- *When connecting a rear view camera, use the "AUX IN 2".*

To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm away from the car harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove the coating if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various Alpine noise suppressors, contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.

TO CONTENTS

Adjustment Procedures

1. Preparation product :

* TME-M770 and NAVIGATION (North American : NVE-N872A, General Foreign : NVE-N099P) are needed for adjustment.

2. Cancellation of AUX Regulation (Parking Wire)

(North American Model Only)

(1) HAND : L <GND> (ON), FOOT : H <14V> (ON)...by initial setting
(2) HAND : H <14V> (OFF)
(3) HAND : L <GND> (ON)
(4) FOOT : L <GND> (OFF)

(General Foreign Model Only)

(1) Parking Brake : L <GND>

3. VIDEO Adjustment

(1) Connection

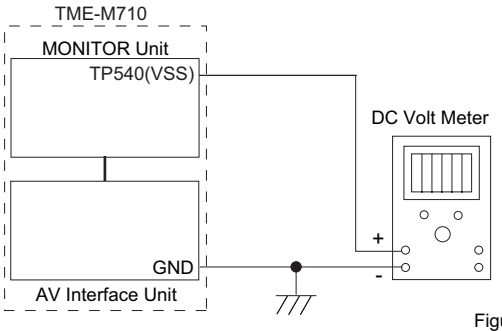


Figure 1

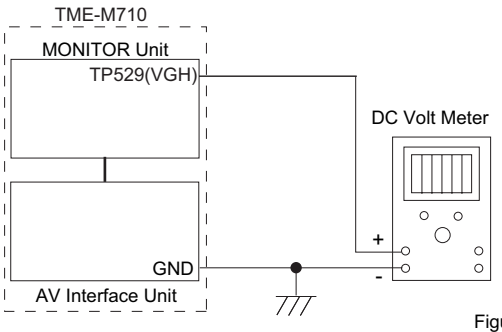


Figure 2

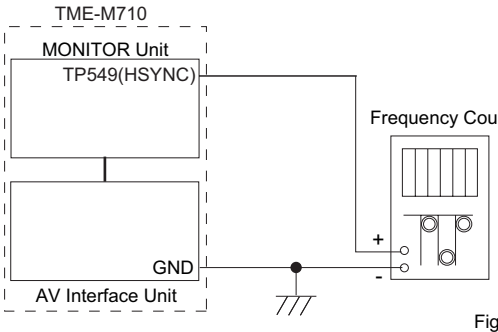


Figure 3

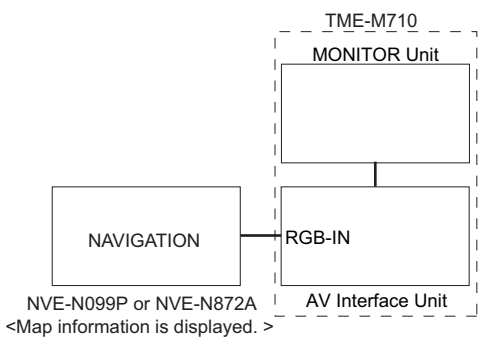


Figure 4

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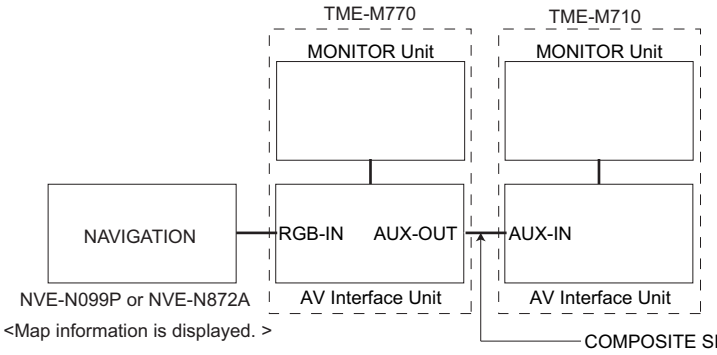

Figure 5

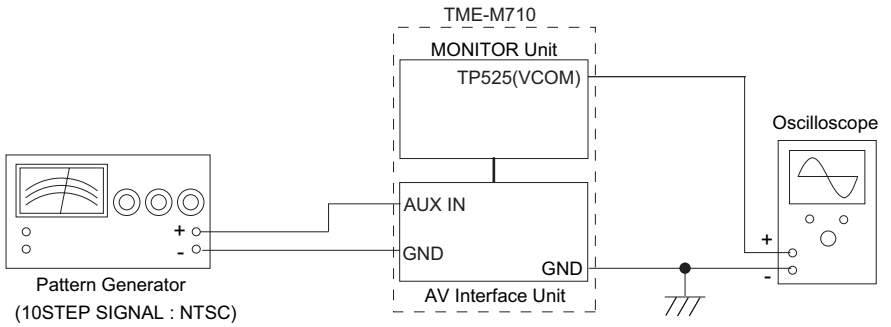

Figure 6

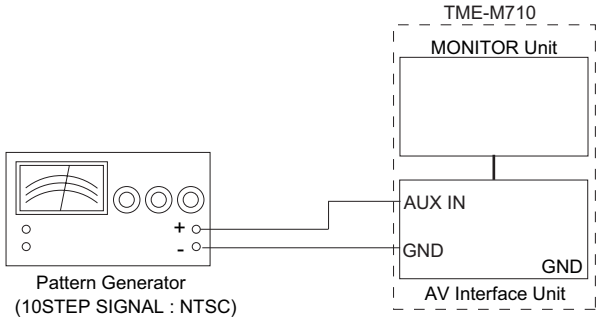

Figure 7

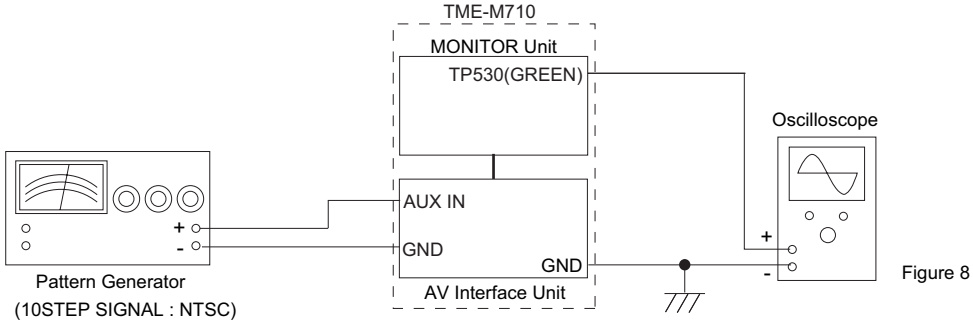

Figure 8

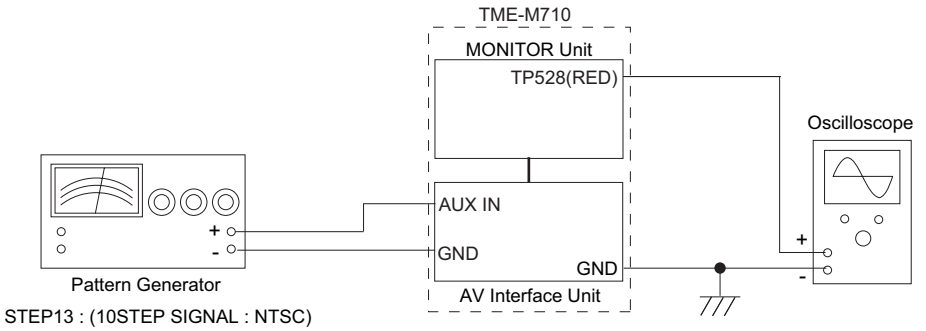

Figure 9

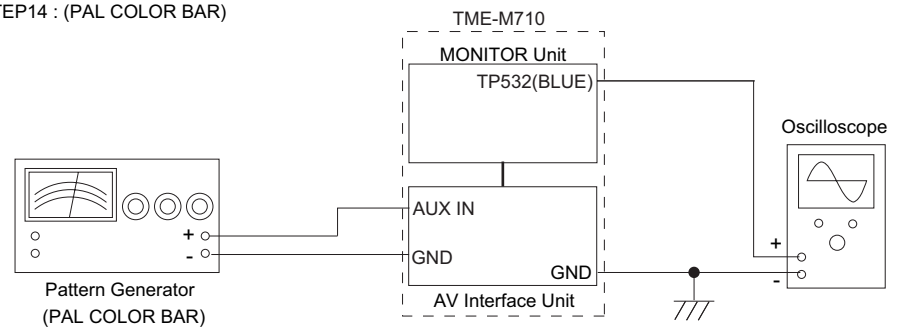

Figure 10

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(2) Adjustment Procedures

Step	Operations Process	Connection	Test Point/ P.W.Board Coordinates	Adjustment
1	AUX terminal	Figure 1 to 3		Confirm AUX terminal OPEN.
2	VSS Voltage Adjustment	Figure 1	TP540 (4-E)	Adjust by VR501 so that it may be set to -16V+0.05, -0.05.
3	VGH Voltage Adjustment	Figure 2	TP529 (4-E)	Adjust by VR500 so that it may be set to +13V+0.05, -0.05.
4	HSYNC Frequency Adjustment	Figure 3	TP549 (4-E)	Adjust by VR504 so that it may be set to 15.73KHz.
5	NAVI Screen Adjustment (1)	Figure 4		(1) After connecting NAVIGATION(*) and TME-M710, switched NAV. Mode. (2) Monitored NAVI position adjustment screen by TME-M710. <NAVIGATION (*) Screen position setting value : "X=-2, Y=00"> (3) Adjust by VR503 so that a white line may be visible to right and left of NAVI position adjustment screen.
6	NAVI Screen Adjustment (2)	Figure 5		(1) After connecting NAVIGATION(*) and TME-M770, inputed Composite Signal to TME-M710 AUX-IN1. (2) Monitored NAVI position adjustment screen by TME-M710. <NAVIGATION(*) Screen position setting value : "X=00, Y=00"> (3) Switched AUX1 Mode (TME-M710). (4) Switched MODE2 by pushing long DISP Key. (5) Adjust by VR505 so that a white line may be visible to right and left of NAVI position adjustment screen.
7	Switching MODE1 and setting DIAG Mode	Figure 6		(1) Switched MODE1 by pushing long DISP Key. (2) Inputed 10STEP SIGNAL NTSC to AUX-IN 1 (TME-M710). (3) After pushing long POWER Key, pushed VOLUME Down Key and VOLUME Up Key in an order. (Setting DIAG Mode)
8	COM AMP Adjustment	Figure 6	TP525 (4-E)	Adjust to 6.5Vp-p by VOLUME Up/Down Key as becoming the waveform of Figure 11.
9	COM DC Adjustment	Figure 7		Adjust by VOLUME Up/Down Key so as that flicker of screen may disappear.
10	BRIGHT Adjustment	Figure 8	TP530 (4-F)	Adjust to black color should be set to "0 level" by VOLUME Up/Down Key as becoming the waveform of Figure 12.
11	CONT-RGB 2 Adjustment	Figure 7		Adjust by L508 so that outside frame of H characters shown in Figure 13 may become black.
12	NTSC TINT Adjustment	Figure 9	TP528 (4-F)	(1) Switched NTSC COLOR BAR. (2) Set up NTSC COLOR value "65" by VOLUME Up/ Down Key. (3) Adjust by VOLUME Up/Down Key as becoming the waveform of Figure 14.
13	PAL COLOR Adjustment	Figure 9	TP528 (4-F)	(1) Switched PAL COLOR BAR. (2) Adjust by VOLUME Up/Down Key as becoming the waveform of Figure 15.
14	PAL TINT Adjustment	Figure 9	TP528 (4-F)	Adjust by VOLUME Up/Down Key as becoming the waveform of Figure 15.

NOTE : NAVIGATION(*) = North American : NVE-N872A, General Foreign : NVE-N099P

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Step	Operations Process	Connection	Test Point/ P.W.Board Coordinates	Adjustment
15	PAL PHASE Adjustment	Figure 10	TP532 (4-F)	Adjust by VOLUME Up/Down Key as becoming the waveform of Figure 16.
16	Cancellation DIAG Mode	Figure 10		Cancelled DIAG Mode by Pushing POWER Key at DIAG Mode.

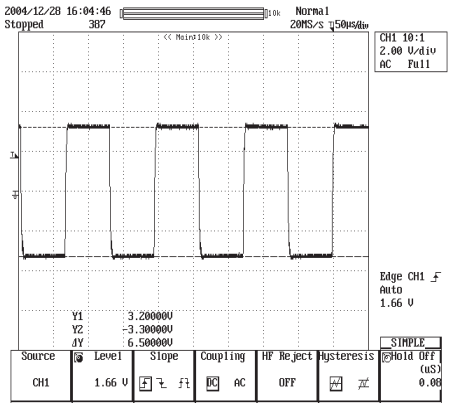

Figure 11

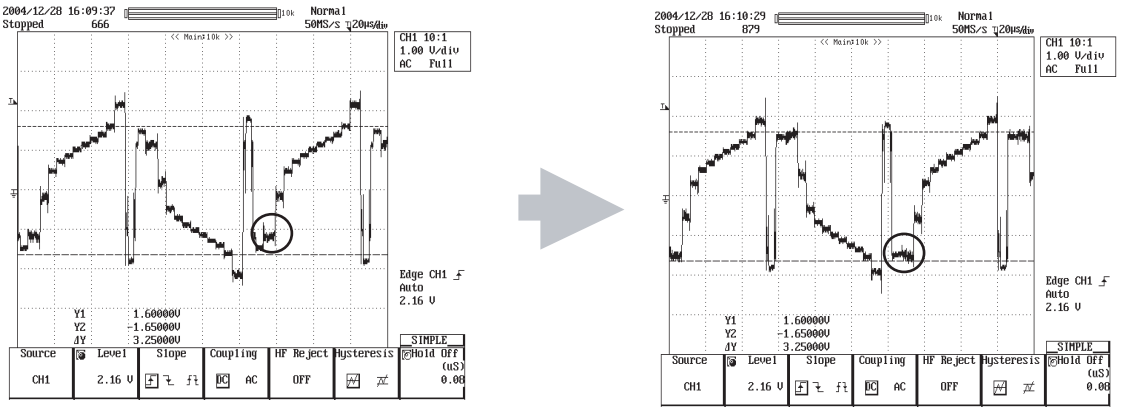

Figure 12

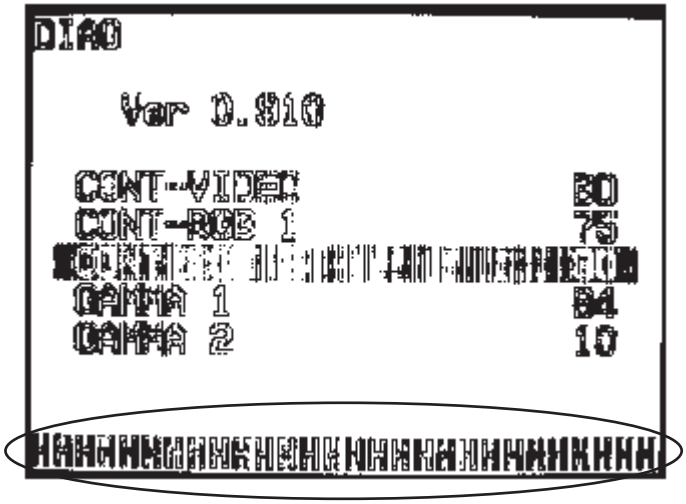

Figure 13

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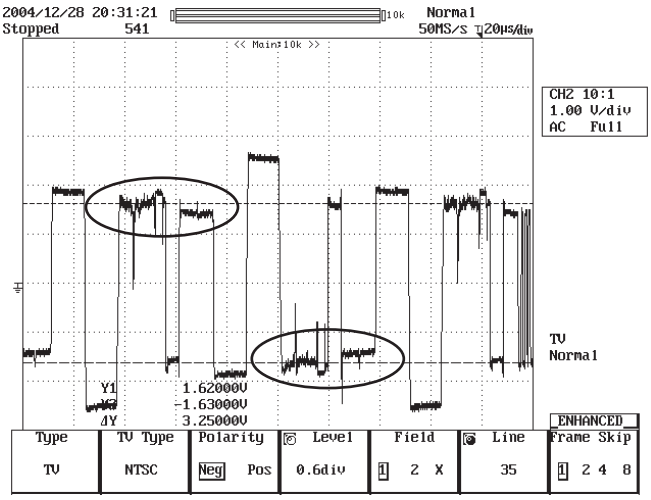

Figure 14

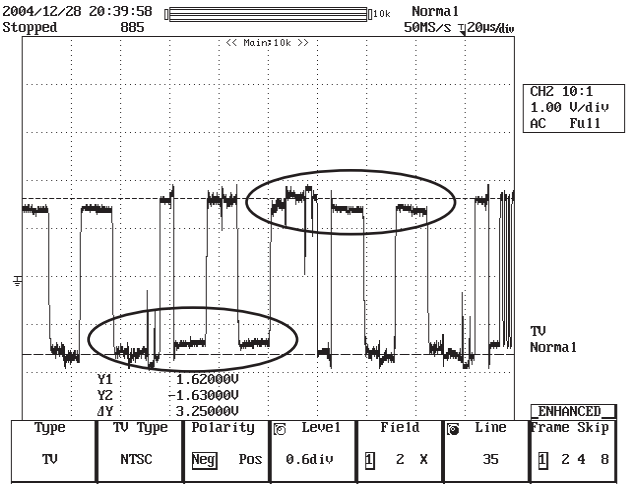

Figure 15

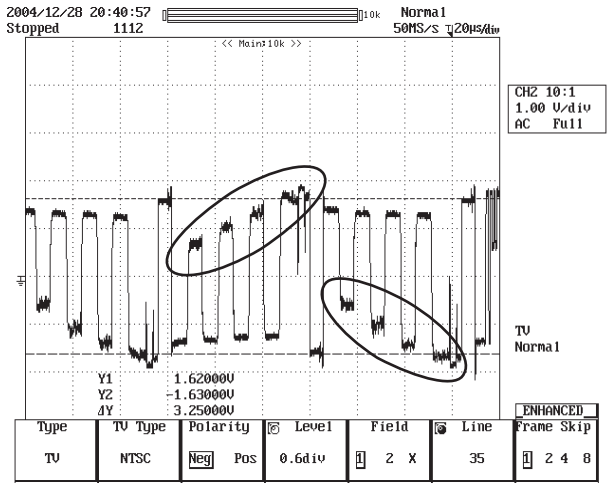

Figure 16

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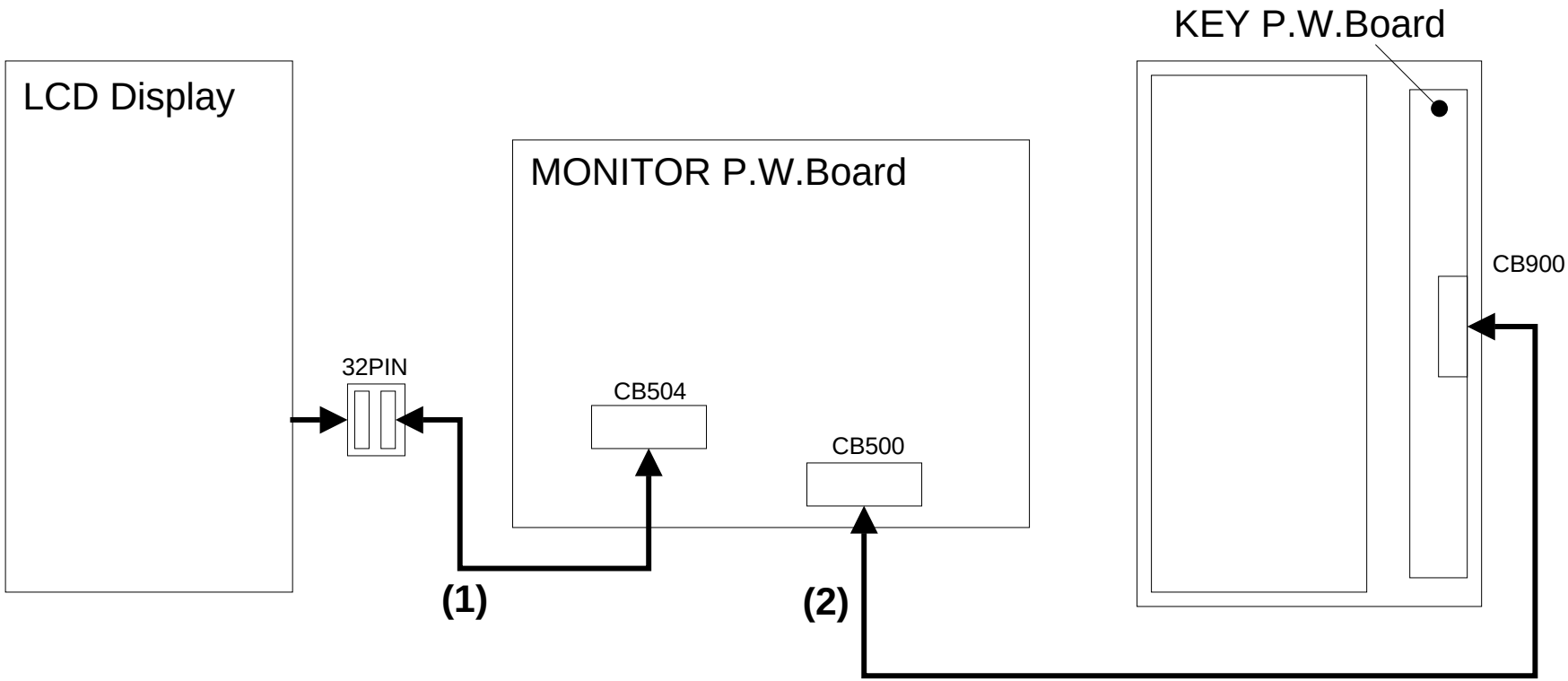
Extension Cable

*Always connect the Extension Cable when making checks of voltage and repair.

< Monitor Unit >



(1) 01E37339S01
(2) 01E37341S01

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< Monitor Unit >

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NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

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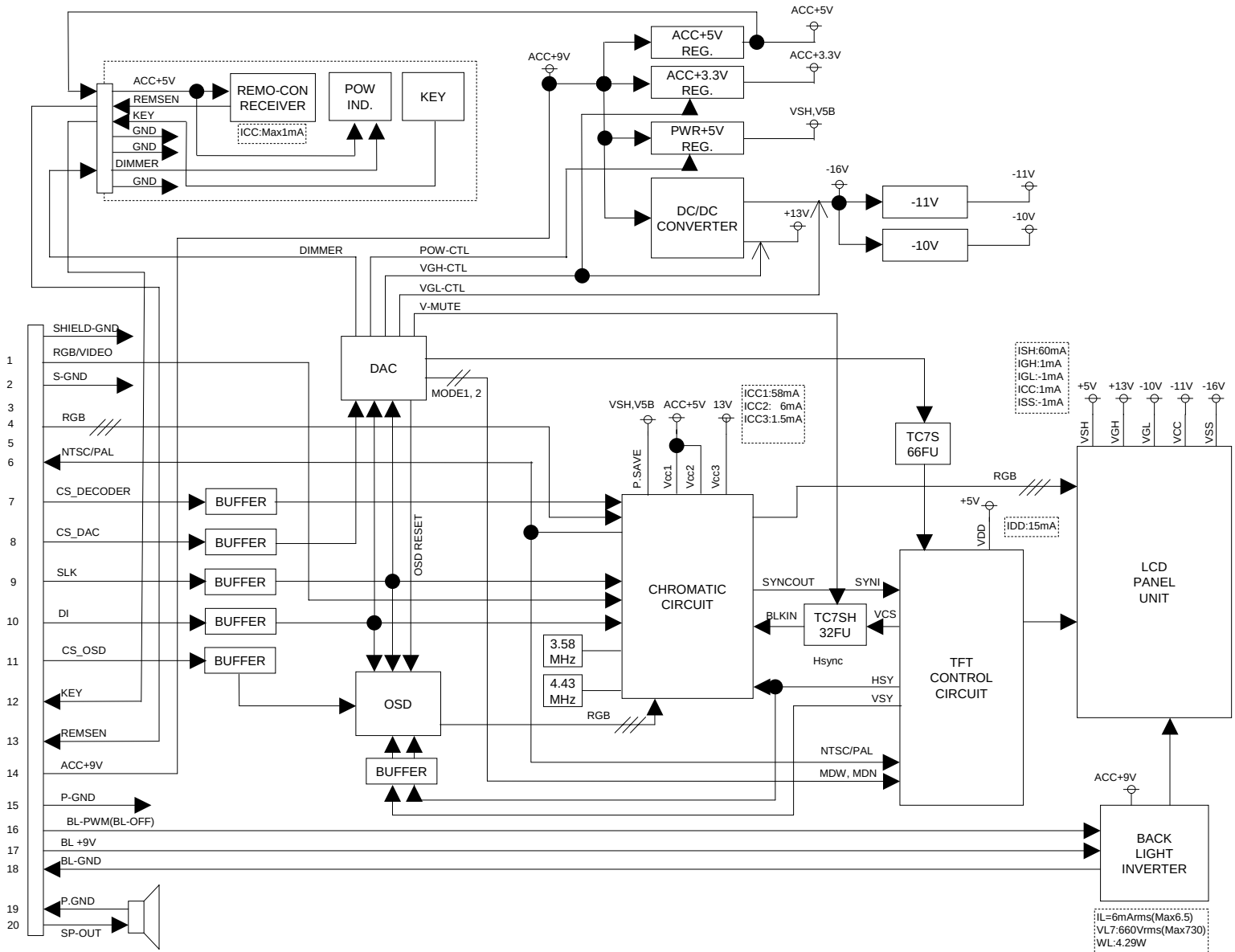
Block Diagram



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Parts Layout on P.W.Boards and Wiring Diagram(1/2)

TO CONTENTS

Caution:The part marked with ⚠ is generating a high voltage, so care will be necessary when working.

LCD504
ASSY,LB065WQ2
(Bottom Side View)

WHT
PNK

MONITOR P.W.Board
(Component Side View)

To CB503

Warning of High Voltage

RDAL403A
E30010028 40

To CB504

To CB500

SP502
SPEAKER, 8ohm-1W
RED
BLK
To CB502

To AV Interface Unit
(B.BOX P.W.Board (CB101))

KEY P.W.Board
(Component Side View)

KEY P.W.Board
(Foil Side View)

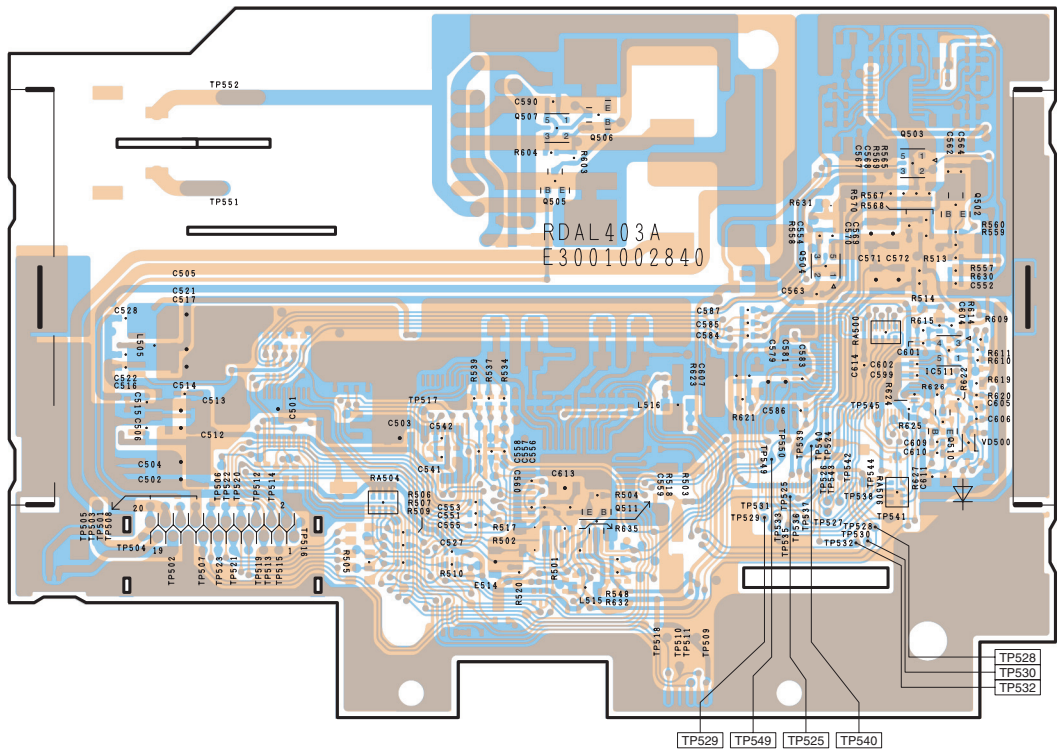
To CB900

Orange Color Pattern:Component Side Pattern
Blue Color Pattern:Foil Side Pattern

Parts Layout on P.W.Boards and Wiring Diagram(2/2)

TO CONTENTS

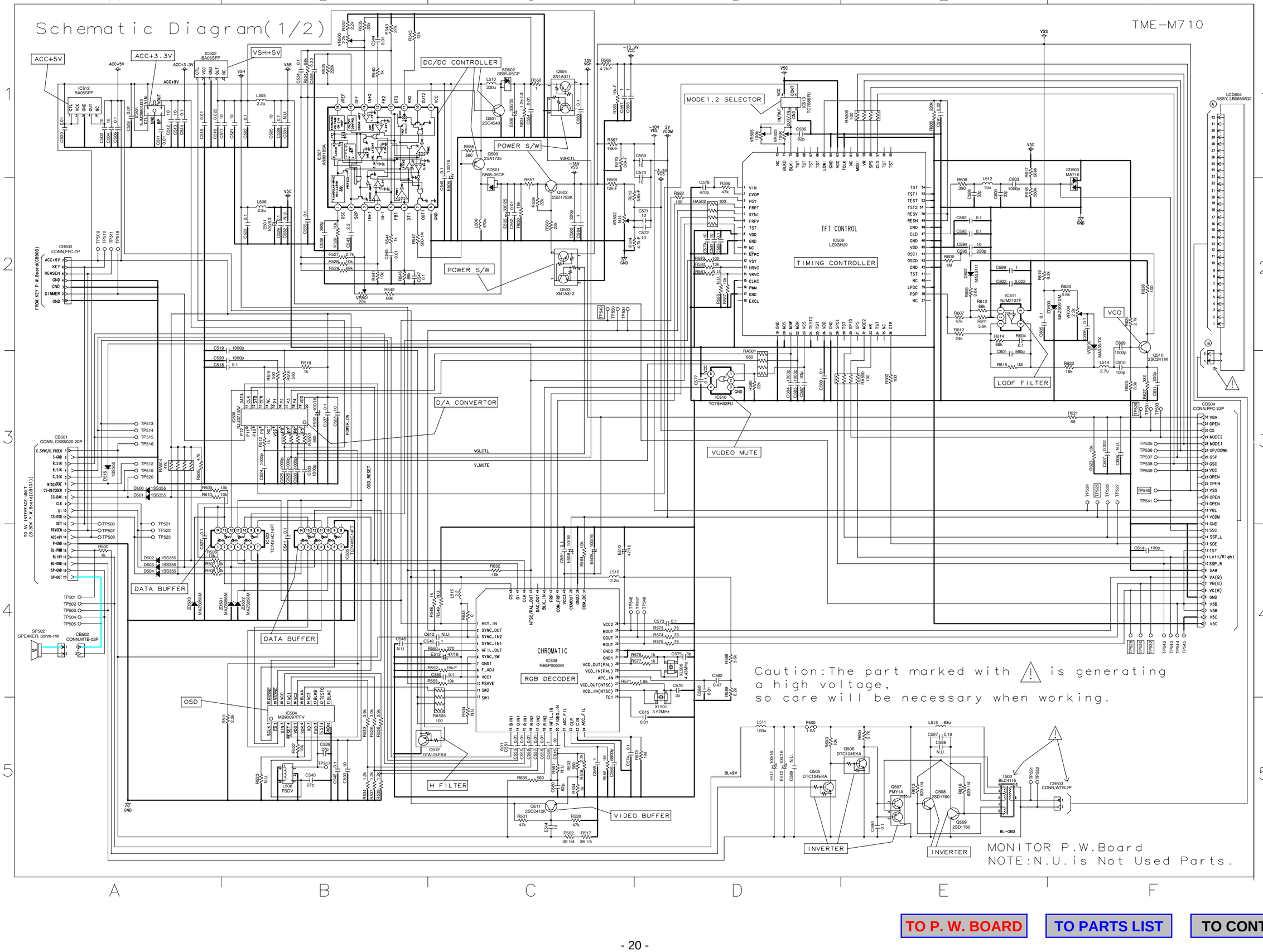
MONITOR P.W.Board (Foil Side View)



Orange Color Pattern:Component Side Pattern
Blue Color Pattern:Foil Side Pattern

Schematic Diagram(1/2)

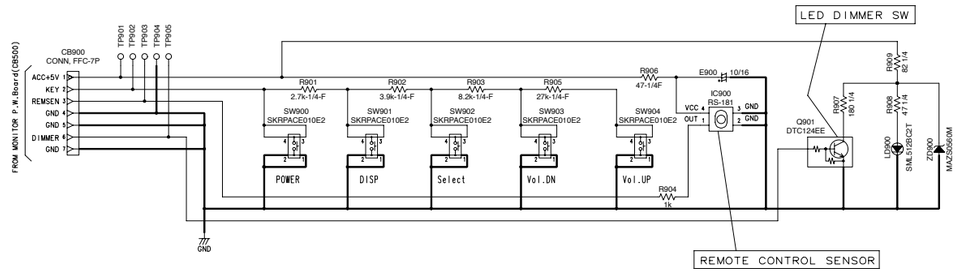
TME-M710



TO P. W. BOARD
TO PARTS LIST
TO CONTENTS

Schematic Diagram(2/2)

TME-M710



KEY P.W.Board

TO P. W. BOARD
TO PARTS LIST
TO CONTENTS

Terminal Voltage of IC/TR

Ref.No.	Pin No.	Voltage (V)	MODE
IC501	1	9	
	2	0	
	3	1.3	
	4	3.3	
	5	9	
IC502	1	4.9	
	2	9	
	3	0	
	4	5	
	5	0	
IC503	1	0.6	
	2	5	
	3	0.6	
	4	0	
	5	0.6	
	6	5	
	7	0.3	
	8	0	
	9	5	
	10	0.3	
	11	4.8	
	12	5	
	13	0.6	
	14	5	
IC504	1	3.3	
	2	3.3	
	3	3.3	
	4	0	
	5	3.3	
	6	3.3	
	7	1.6	
	8	1.6	
	9	0	
	10	0	
	11	0	
	12	0	
	13	0	
	14	0	
	15	0.3	
	16	0.3	
	17	0.3	
	18	0.3	
	19	3.3	
	20	3.2	
IC505-1	1	0.6	
	2	3.3	
	3	0.6	
	4	3.3	
	5	0.6	
	6	3.3	
	7	0	

Ref.No.	Pin No.	Voltage (V)	MODE
IC505-2	8	3.3	
	9	0	
	10	3.3	
	11	0	
	12	3.2	
	13	0.3	
	14	3.3	
IC506	1	0	
	2	5	
	3	5	
	4	5	
	5	0	
	6	0	
	7	5	
	8	0	
	9	0	
	10	0	
	11	5	
	12	5	
	13	5	
	14	5	
	15	0	
	16	0	
	17	0	
	18	5	
	19	5	
	20	5	
IC507	1	0.5	
	2	0	
	3	0.6	
	4	0.6	
	5	0.3	
	6	0.6	
	7	7.9	
	8	0	
	9	9.1	
	10	0	
	11	0	
	12	1	
	13	1	
	14	0.8	
	15	1.7	
	16	1.3	
IC508-1	1	4.8	
	2	0	
	3	5	
	4	2.1	
	5	3.6	
	6	0.5	
	7	0	
	8	1.3	

TO SCHEMATIC TO CONTENTS

Ref.No.	Pin No.	Voltage (V)	MODE
IC508-2	9	5	
	10	4.7	
	11	0	
	12	5	
	13	2.6	
	14	2.6	
	15	2.6	
	16	2.6	
	17	2.6	
	18	2.6	
	19	0.9	
	20	2.2	
	21	2.7	
	22	2.4	
	23	0	
	24	0	
	25	2.5	
	26	4.2	
	27	2.9	
	28	2.5	
	29	4.2	
	30	3	
	31	0	
	32	0	
	33	2.5	
	34	2.5	
	35	2.5	
	36	5	
	37	1.9	
	38	0	
	39	6.4	
	40	13	
	41	2.6	
	42	2.5	
	43	5/0	NTSC/PAL
	44	0	
	45	0.2	
	46	5	
	47	5	
	48	5	
IC509-1	1	0.3	
	2	0.3	
	3	4.8	
	4	2.5	
	5	0	
	6	2.5	
	7	0	
	8	5	
	9	0	
	10	0	
	11	0.2	
	12	5	
	13	5	
	14	0.2	

Ref.No.	Pin No.	Voltage (V)	MODE
IC509-2	15	5	
	16	5	
	17	0	
	18	0	
	19	0	
	20	5	
	21	5	
	22	5	
	23	0	
	24	5	
	25	0	
	26	5	
	27	0	
	28	0	
	29	0	
	30	0	
	31	0	
	32	5	
	33	5	
	34	0	
	35	0	
	36	2.5	
	37	0	
	38	2.7	
	39	5	
	40	0	
	41	0	
	42	0	
	43	2.5	
	44	2.5	
	45	5	
	46	0	
	47	2.2	
	48	0	
	49	0	
	50	4.9	
	51	5	
	52	5	
	53	5	
	54	0	
	55	0	
	56	0	
	57	3.5	
	58	4	
	59	0	
	60	5	
	61	0	
	62	0	
	63	5	
	64	0	
	65	4.9	
	66	0	
	67	0	
	68	0	

TO SCHEMATIC TO CONTENTS

Ref.No.	Pin No.	Voltage (V)	MODE
IC509-3	69	0	
	70	2.6	
	71	2.5	
	72	0	
IC510	1	0	
	2	5	
	3	0	
	4	5	
	5	5	
IC511	1	2.7	
	2	0	
	3	2.7	
	4	2.7	
	5	5	
IC512	1	9	
	2	0	
	3	1.3	
	4	5	
	5	9	
IC513	1	2.5	
	2	2.5	
	3	0	
	4	0	
	5	5	
IC900	1	4.8	
	2	0	
	3	0	
	4	5	

Ref.No.	Pin No.	Voltage (V)	MODE
Q500	E	9.1	
	B	8.7	
	C	0	
Q501	E	0	
	B	0	
	C	9	
Q502	E	-16	
	B	-15.4	
	C	-16	
Q503	1	0	
	2	5	
	3	5	
	4	0	
	5	0	

Ref.No.	Pin No.	Voltage (V)	MODE
Q504	1	0	
	2	13	
	3	13	
	4	4.8	
	5	0	
Q505	E	0	
	B	4.6	
	C	0	
Q506	E	0	
	B	0	
	C	8.8	
Q507	1	9	
	2	0	
	3	8.8	
	4	0	
	5	0	
Q508	E	0.2	
	B	-0.5	
	C	8.7	
Q509	E	0.2	
	B	-0.4	
	C	8.7	
Q510	E	2.3	
	B	2.7	
	C	4.4	
Q511	E	3.2	
	B	3.9	
	C	5	
Q512	E	3.6	
	B	3.6	
	C	0	
Q901	E	0/0	DIMMER ON/OFF
	B	5/0	
	C	0/3.8	

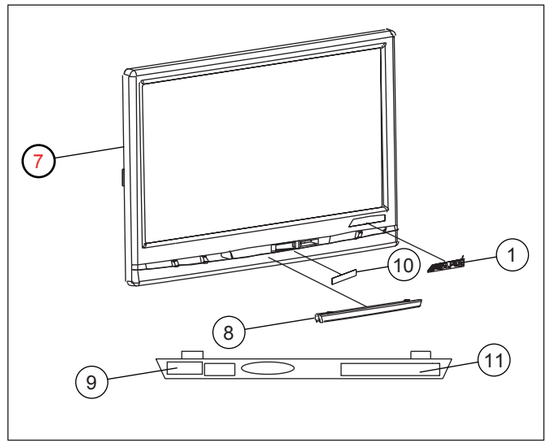
[Measuring Conditions]

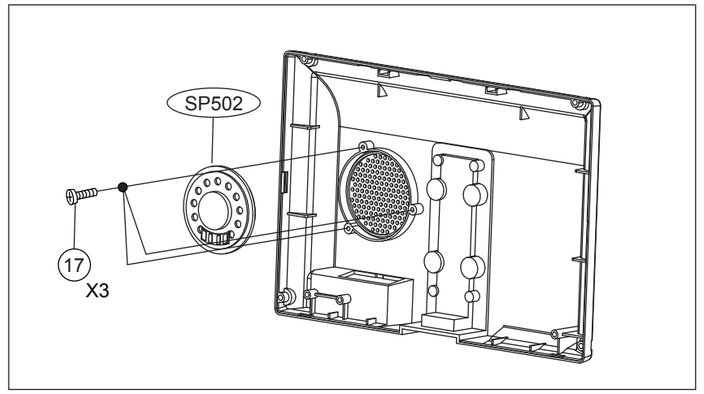
1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multimeter
3. Measuring Point Reference : Between GND
4. Measuring Condition : See each data

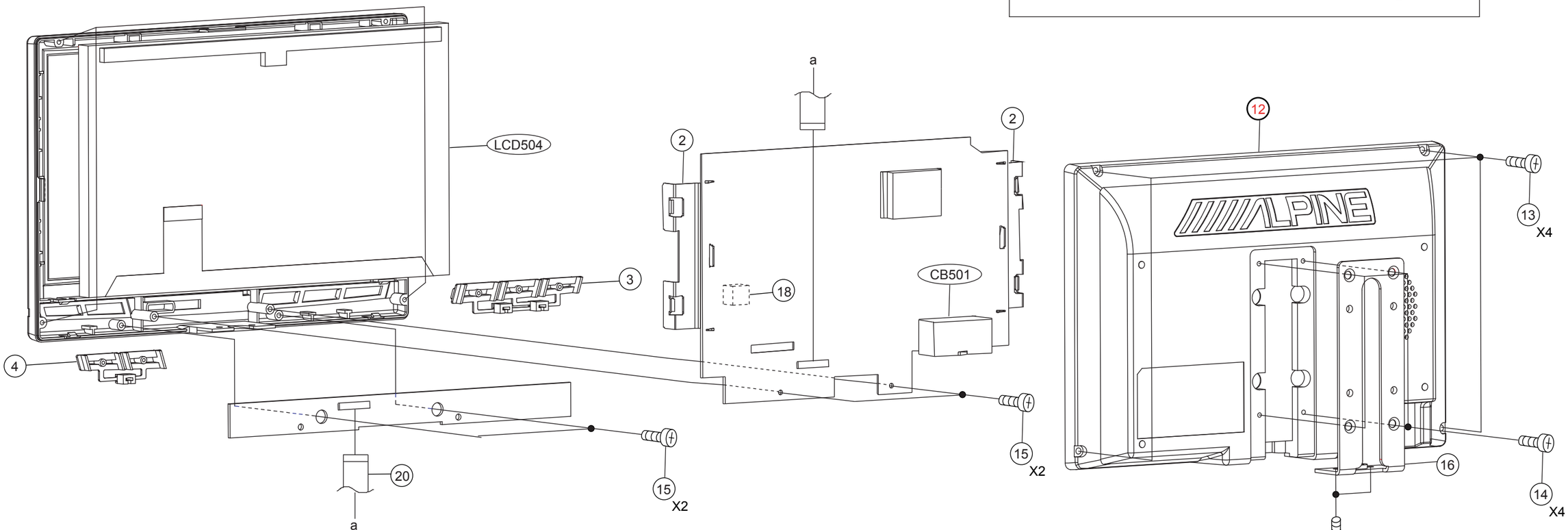
TO SCHEMATIC TO CONTENTS

Exploded View (Cabinet)

(Monitor Unit)







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< AV Interface Unit >

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NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

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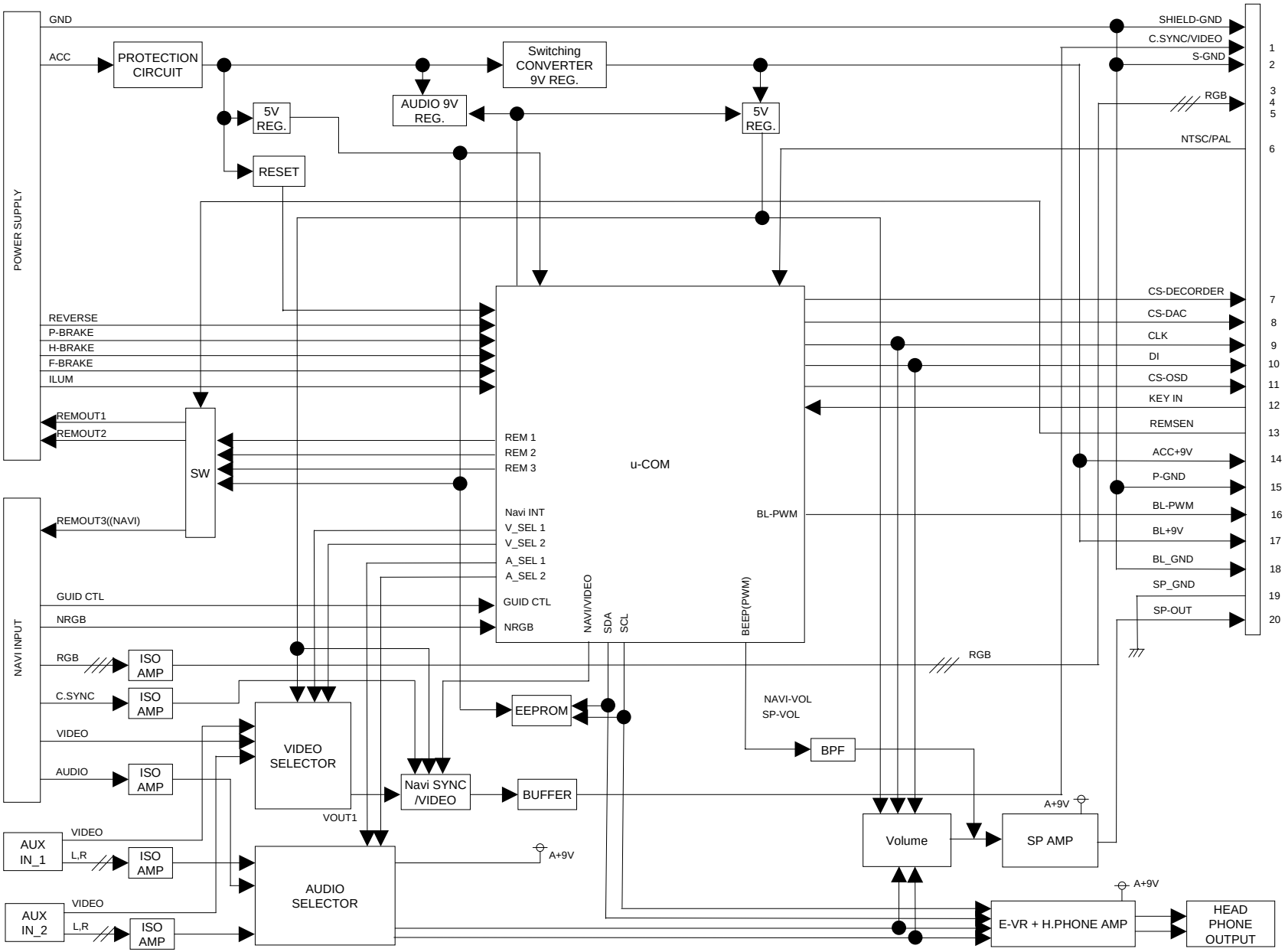
Block Diagram



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Parts Layout on P.W.Boards and Wiring Diagram(1/2)

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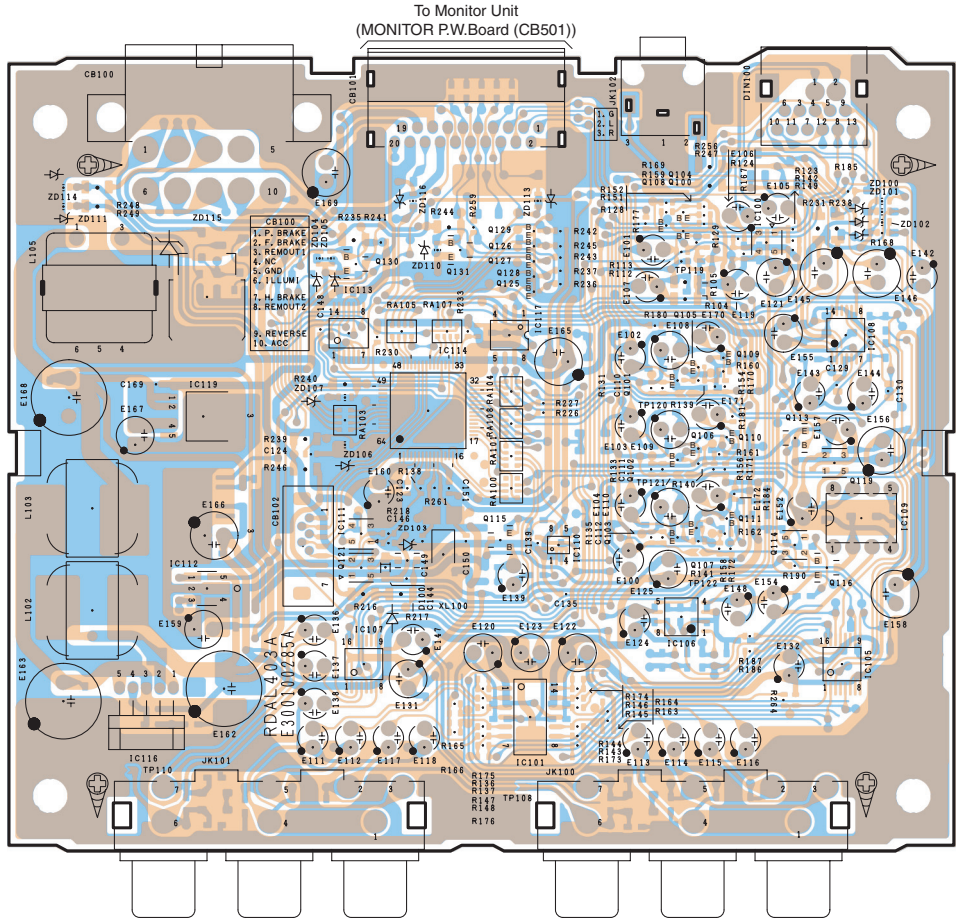
B.BOX P.W.Board (Component Side View)



Orange Color Pattern:Component Side Pattern
Blue Color Pattern:Foil Side Pattern

Parts Layout on P.W.Boards and Wiring Diagram(2/2)

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1

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3

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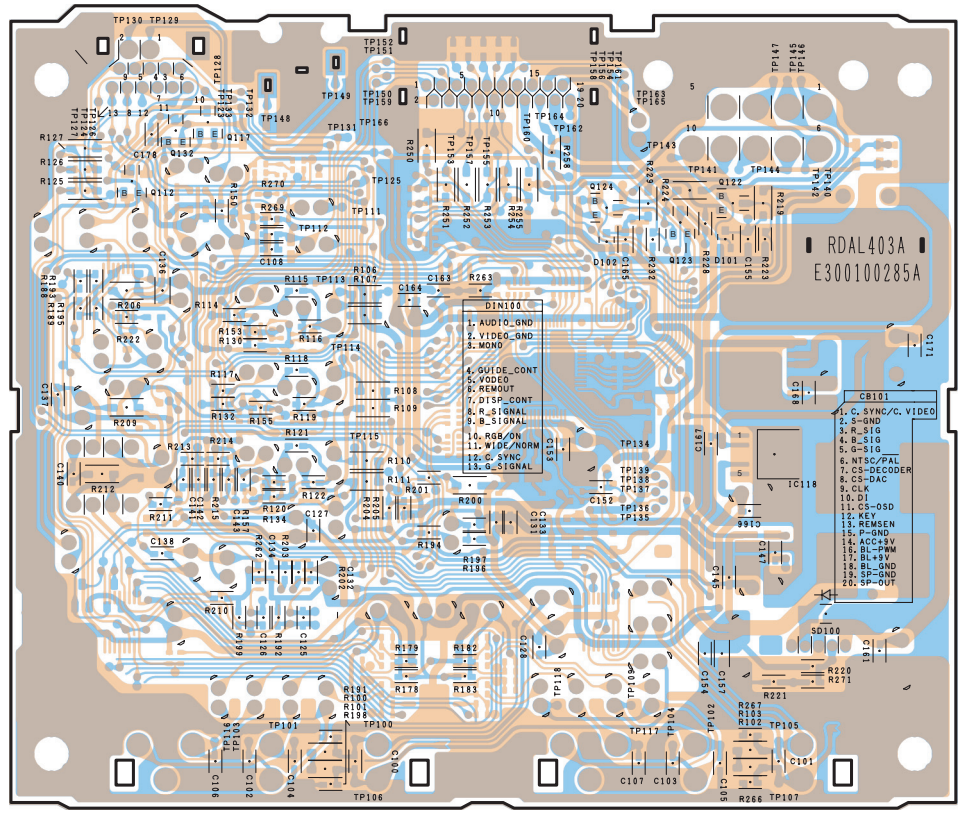
B.BOX P.W.Board (Foil Side View)



Orange Color Pattern:Component Side Pattern
Blue Color Pattern:Foil Side Pattern

A B C D E F G

Schematic Diagram

TME-M710

TO P. W. BOARD | TO PARTS LIST | TO CONTENTS

Terminal Voltage of IC/TR

Ref.No.	Pin No.	Voltage (V)	MODE
IC100	1	4.5	
	2	0	
	3	4.5	
	4	4.5	
	5	9.1	
IC101	1	4.5	
	2	4.5	
	3	4.5	
	4	9	
	5	4.5	
	6	4.5	
	7	4.5	
	8	4.5	
	9	4.5	
	10	4.5	
	11	0	
	12	4.5	
	13	4.5	
	14	4.5	
IC105	1	4.5	
	2	4.5	
	3	4.5	
	4	0.1	
	5	4.5	
	6	0	
	7	0	
	8	0	
	9	0	
	10	5	
	11	0.7	
	12	4.5	
	13	4.5	
	14	4.5	
	15	4.5	
	16	9	
IC106	1	2.4	
	2	2.4	
	3	0	
	4	5	
	5	5	
	6	5	
	7	2.4	
	8	0.24	
IC107-1	1	0	
	2	0	
	3	1.7	
	4	1.7	
	5	1.7	
	6	1.7	
	7	1.7	
	8	5	

Ref.No.	Pin No.	Voltage (V)	MODE
IC107-2	9	1.7	
	10	5	
	11	0	
	12	0.9	
	13	0	
	14	0	
	15	0.9	
	16	0	
IC108	1	9	
	2	4.5	
	3	0	
	4	3.2	
	5	4.5	
	6	0	
	7	0	
	8	5	
	9	4.6	
	10	4.6	
	11	5.4	
	12	0	
	13	4.5	
	14	0	
IC109	1	1.3	
	2	0	
	3	0	
	4	0	
	5	4.5	
	6	9	
	7	4.5	
	8	1.3	
IC110	1	0.9	
	2	0	
	3	0	
	4	0	
	5	0	
	6	0	
	7	0.9	
	8	5	
IC111	1	4.6	
	2	5	
	3	0	
	4	0	
	5	2.8	
IC112	1	5	
	2	0	
	3	1.3	
	4	5	
	5	9.2	
IC113-1	1	0	
	2	4.9	
	3	0	

TO SCHEMATIC TO CONTENTS

Ref.No.	Pin No.	Voltage (V)	MODE
IC113-2	4	0	
	5	0	
	6	0	
	7	0	
	8	5	
	9	4.9	
	10	5	
	11	0	
	12	4.9	
	13	0	
	14	5	
IC114-1	1	0	
	2	0	
	3	5	
	4	3.2	
	5	0	
	6	3.3	
	7	4.6	
	8	0	
	9	0	
	10	2.5	
	11	2.5	
	12	5	
	13	0	
	14	5	
	15	5	
	16	5	
	17	0	
	18	0	
	19	5	
	20	0	
	21	0	
	22	0	
	23	5	
	24	0	
	25	0	
	26	5	
	27	5	
	28	0	
	29	0	
	30	0	
	31	5	
	32	0	
	33	0	
	34	5	
	35	5	
	36	5	
	37	5	
	38	5	
	39	5	
	40	5	
	41	0.8	
	42	0.9	
	43	0.8	

Ref.No.	Pin No.	Voltage (V)	MODE
IC114-2	44	0	
	45	5	
	46	5	
	47	5	
	48	0	
	49	0	
	50	4.8	
	51	0	
	52	0	
	53	1.8	
	54	0	
	55	5	
	56	0	
	57	0	
	58	5	
	59	0	
	60	0	
	61	0	
	62	5	
	63	0	
	64	0	
IC116	1	15	
	2	9.2	
	3	0	
	4	0.9	
	5	15	
IC117	1	0	
	2	0	
	3	0	
	4	0	
	5	5	
	6	0	
	7	5	
	8	5	
IC118	1	5	
	2	15	
	3	0	
	4	9	
	5	0	
IC119	1	15.5	
	2	15.3	
	3	0	
	4	5	
	5	0	

Ref.No.	Pin No.	Voltage (V)	MODE
Q100	E	7.9	
	B	8.5	
	C	8.7	
Q101	E	7.7	
	B	8.3	
	C	8.9	

TO SCHEMATIC TO CONTENTS

Ref.No.	Pin No.	Voltage (V)	MODE
Q102	E	7.7	
	B	8.3	
	C	8.9	
Q103	E	7.7	
	B	8.3	
	C	8.9	
Q104	E	9.1	
	B	8.7	
	C	0	
Q105	E	9.1	
	B	8.9	
	C	0	
Q106	E	9.1	
	B	8.9	
	C	0	
Q107	E	9.1	
	B	8.9	
	C	0	
Q108	E	0	
	B	0	
	C	9.1	
Q109	E	0	
	B	0	
	C	9.1	
Q110	E	0	
	B	0	
	C	9.1	
Q111	E	0	
	B	0	
	C	9.1	
Q112	E	0/5	P.BRAKE ON/OFF
	B	0/5	
	C	5/0	
Q113	E	0	
	B	5	
	C	0	
Q114	1	0	
	2	0	
	3	15.2	
	4	0.1	
	5	15.2	
Q115	E	1.4	
	B	2.1	
	C	9.1	
Q116	E	0	
	B	0	
	C	0	

Ref.No.	Pin No.	Voltage (V)	MODE
Q117	E	2.2	
	B	0	
	C	0	
Q119	1	0	
	2	0	
	3	9	
	4	4.5	
	5	9	
Q121	1	0	
	2	5	
	3	5	
	4	7.4	
	5	0	
Q122	E	5	
	B	3.1	
	C	5	
Q123	E	0/0	F.BRAKE ON/OFF
	B	0/2.6	
	C	5/0	
Q124	E	5/5	H.BRAKE ON/OFF
	B	3.2/4.2	
	C	5/0	
Q125	E	0	
	B	5	
	C	0	
Q126	E	0	
	B	5	
	C	0	
Q127	E	0	
	B	5	
	C	0	
Q128	E	0	
	B	5	
	C	0	
Q129	E	0	
	B	5	
	C	0	
Q130	E	0/0	REVERSE ON/OFF
	B	14.6/0	
	C	0/5	
Q131	E	0/0	ILLUMI ON/OFF
	B	14.6/0	
	C	0/5	
Q132	E	2.1	
	B	0	
	C	0	

[Measuring Conditions]

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multimeter
3. Measuring Point Reference : Between GND
4. Measuring Condition : See each data

TO SCHEMATIC TO CONTENTS

Description of IC Terminal

H8/3687F : IC114

No.	Symbol	I/O	Terminal Description
1	PB6/AN6(GND)	-	GND connect terminal.
2	PB7/AN7(GND)		
3	AVCC	-	ACC +5V connect terminal.
4	X2(NC)	-	No connect terminal.
5	X1(GND)	-	GND connect terminal.
6	VCL	I	Internal power supply terminal.
7	$\overline{\text{RESET}}$	I	RESET signal input terminal.
8	TEST(GND)	-	GND connect terminal.
9	VSS		
10	OSC2	O	MAIN CLOCK connect terminal. (8.0MHz)
11	OSC1	I	
12	VCC	-	ACC +5V connect terminal.
13	P50/$\overline{\text{WKP0}}$(NC)	-	No connect terminal.
14	P51/$\overline{\text{WKP1}}$	I	GUIDE_DET terminal.
15	DIMMER	I	DIMMER signal input terminal.
16	GUIDE_DET	I	NAVI GUIDE voice signal input terminal.
17	NRGB	I	RGB TYPE NAVI signal input terminal.
18	P37(NC)	-	No connect terminal.
19	A_SEL_1	O	SOURCE AUDIO setting output terminal.
20	A_SEL_2		
21	P54/$\overline{\text{WKP4}}$(NC)	-	No connect terminal.
22	NAVI/VIDEO	O	AUX/COMPOSITE TYPE NAVI setting output terminal.
23	REM1	O	AUX 1 Remote-Control setting output terminal.
24	REM2	O	AUX 2 Remote-Control setting output terminal.
25	REM3	O	NAVI Remote-Control setting output terminal.
26	SDA	O	HEAD PHONE AMP VOL. control signal output terminal.
27	SCL		
28	P74/TMRIV(NC)	-	No connect terminal.
29	NAVI_INT(NC)		
30	BEEP	O	BEEP signal output terminal.
31	V_SEL_1	O	SOURCE VIDEO setting output terminal.
32	V_SEL_2		
33	V_MUTE	O	V_MUTE terminal.
34	$\overline{\text{AUDIO_MUTE}}$	O	AUDIO_MUTE signal output terminal.
35	NMI	I	FLASH u-COM writing terminal.
36	P60/FTIOA0(NC)	-	No connect terminal.
37	PW_CTL	O	PW_CTL control signal output terminal.
38	CLK	O	CLK signal output terminal for SP VOL, DAC, DEC, OSD.
39	DATA	O	DATA signal output terminal for SP VOL, DAC, DEC, OSD.
40	BL_PWM	O	BACK LIGHT lighting control output terminal.
41	P85	I/O	FLASH u-COM writing terminal.
42	P86		
43	P87		
44	P20/SCK3(NC)	-	No connect terminal.
45	CS_OSD	O	CS signal output terminal for OSD.
46	CS_DEC	O	CS signal output terminal for DEC.

TO SCHEMATIC TO CONTENTS

No.	Symbol	I/O	Terminal Description
47	CS_DAC	O	CS signal output terminal for DAC.
48	P70/SCK3_2(NC)	-	No connect terminal.
49	TEST_RXD(PULL-UP)	-	Pull-up connect terminal.
50	NTSC/$\overline{\text{PAL}}$	I	NTSC/PAL judgment signal input terminal.
51	P14/$\overline{\text{IRQ}}$0(NC)	-	No connect terminal.
52	P15/$\overline{\text{IRQ}}$1/TMIB1(NC)		
53	P16/$\overline{\text{IRQ}}$2(NC)		
54	P17/$\overline{\text{IRQ}}$3/TRGV(NC)		
55	REVERSE	I	REVERSE signal input terminal.
56	H_BRAKE	I	H_BRAKE signal input terminal.
57	F_BRAKE	I	F_BRAKE signal input terminal.
58	P_BRAKE	I	P_BRAKE signal input terminal.
59	PB3/AN3(GND)	-	GND connect terminal.
60	PB2/AN2(GND)		
61	PB1/AN1(GND)		
62	A/D_KEYIN	I	A/D KEY input terminal.
63	PB4/AN4(GND)	-	GND connect terminal.
64	PB5/AN5(GND)		

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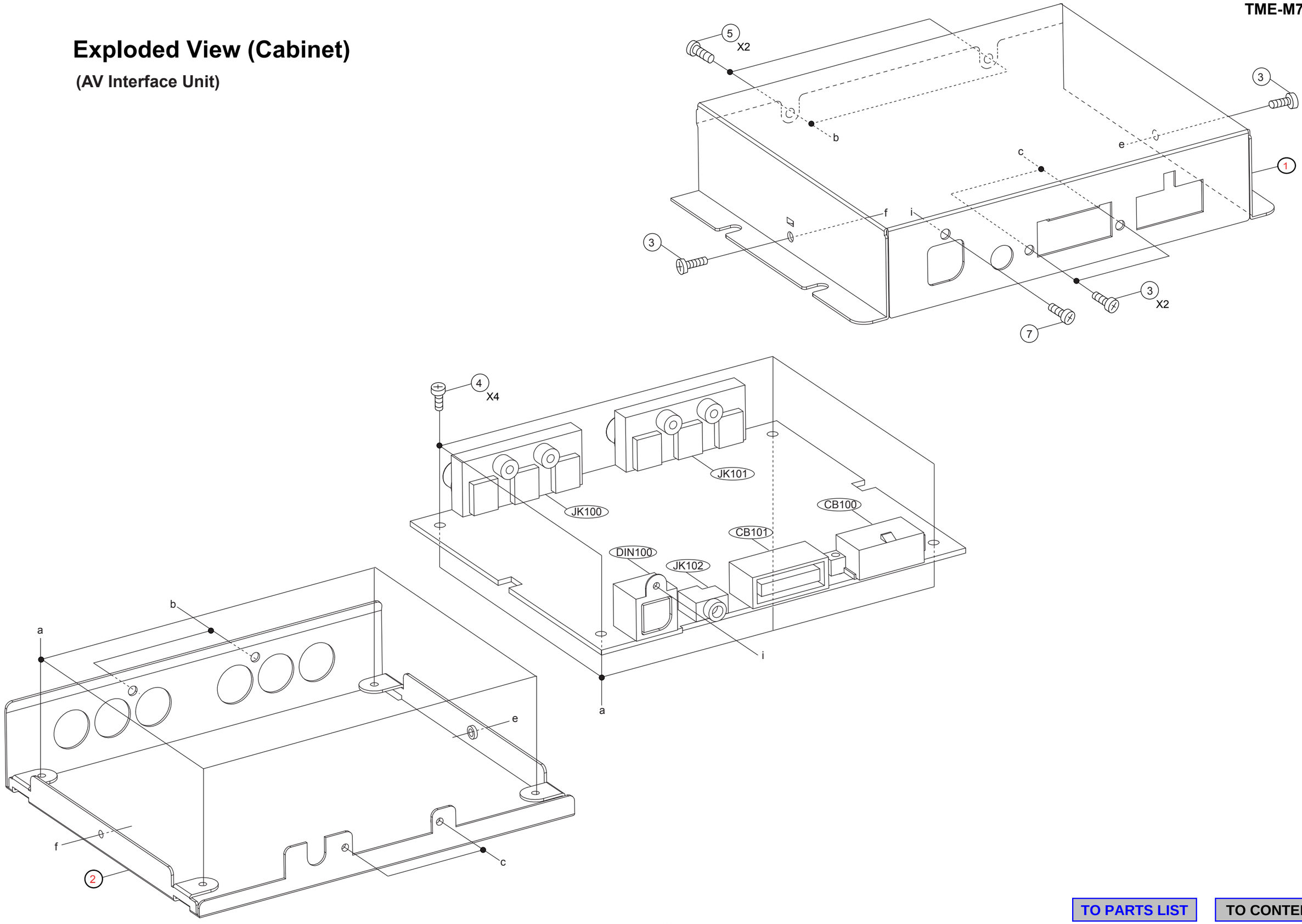
Exploded View (Cabinet)

(AV Interface Unit)



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